

# EXHIBIT D

Prepared for  
**Newell Products, Inc.**

Submitted to  
**Schiff Hardin, LLP**  
**Chicago, Illinois**

Prepared by  
**Ramboll Environ US Corporation**

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**21-39891A**

**EXPERT REPORT OF SCOTT HAYTER, PG, PE**  
**STURGIS MUNICIPAL WELL FIELD SITE**  
**STURGIS, MICHIGAN**



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## EXHIBITS

Exhibit A: Professional Profile for Scott Hayter  
Exhibit B: List of Publications and Presentations for Scott Hayter  
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## 1. INTRODUCTION

I have been retained by Schiff Hardin, LLP, on behalf of Newell Products, Inc. ("Newell"), to provide scientific input in the investigation and litigation of claims of financial losses due to the alleged delay in redeveloping property subject to a Consent Order for remediation of a Superfund site.

This report has been prepared to satisfy Rule 26 of the Federal Rules of Civil Procedure. My findings and their supporting facts are presented in the Opinions section of this report.

### 1.1 Issues to be Addressed

This report presents my findings, to a reasonable degree of scientific certainty, based upon the results of my technical analysis of the facts in this case, the environmental data collected, and the testimony provided to date.

### 1.2 Qualifications of the Expert

A copy of my current Professional Profile, which contains materials called for in Rule 26 of the Federal Rules of Civil Procedure, is attached hereto as Exhibit A.

### 1.3 Additional Information

The list of my publications within the last 10 years is included in Exhibit B. I have not provided deposition or trial testimony in the past four years. In my role as expert and consultant in this case, Ramboll Environ US Corporation (Ramboll Environ) is currently billing Newell at a rate of \$255/hour for my services. My fees are the same for both deposition and trial time.

In this report, I have relied upon my training, education, and experience and either partial or complete review of the documents listed in Exhibit C.

### 1.4 Supplemental Testimony

I reserve the right to supplement or modify this report and my findings to respond to any new or additional information that may become available after the date of this report and to rebut, as necessary, any opinions offered by the defendant or its experts in this case.

I may use all of the documents listed in Exhibit C or referenced within this report (including any documents referenced within those documents listed in Exhibit C or referenced within this report) as exhibits. And further, I reserve the right to use any parties' materials or documents as exhibits and may identify and use additional documents and materials to rebut any testimony of the defendant or its experts.

## 2. OVERVIEW

The Sturgis Municipal Well Field Site was discovered in 1982 after testing of the municipal water supply wells revealed the presence of trichloroethene (TCE).<sup>1</sup> The Site was listed on the National Priorities List (NPL) in 1984<sup>2</sup> and the Michigan Department of Natural Resources (MDNR) began an investigation into the source of the contamination. MDNR investigated industrial properties in the late 1980s and early 1990s and identified the Kirsch Plant No. 1 Site as a significant source of TCE to groundwater.<sup>3</sup> The former Kirsch Plant No. 1 Site was located in the City of Sturgis Michigan, between E. Hatch Street and the Michigan Southern Railway ROW, and consisted of two parcels: an eastern and a western parcel which were (and still are) separated by Prospect Ave. The address of the eastern parcel is 309 N. Prospect and the western parcel is located at 308 N. Prospect. The MDNR investigation identified TCE soil contamination on the eastern parcel.<sup>4</sup> The subject of this litigation is the property comprising the western parcel, located at 308 North Prospect Street, Sturgis, Michigan.

In the vicinity of the Site, the water table is located approximately 60 feet below ground surface (bgs)<sup>5</sup> and the vadose zone soils consist mainly of sand and gravel.<sup>6</sup> A Record of Decision (ROD) was issued by the United States Environmental Protection Agency (EPA) in 1991 that required soil vapor extraction (SVE) treatment of soil contamination (followed by activated carbon adsorption to treat off-gases) on the eastern parcel, and pump and treat remediation of contaminated groundwater (air stripping followed by vapor phase granular activated carbon for off-gases) in the vicinity of the Kirsch Plant No. 1 Site.<sup>7</sup> The 1991 ROD provided soil remediation objectives (14 micrograms per kilograms [ug/kg] or parts per billion [ppb] for tetrachloroethene (PCE) and 60 ug/kg or ppb for TCE based on Michigan Part 201 Generic Cleanup Criteria) for the SVE treatment system, but also allowed for the possibility of conducting a leach test to determine site-specific remediation objectives.

The ROD was amended in 1996 to reflect changes in the MI Part 201 default values for the migration to groundwater pathway, and the remediation objectives for TCE and PCE in soil were both updated to 100 ug/kg.<sup>8</sup> Also in 1996, Cooper Industries (which had purchased the Kirsch Company in 1981) entered into a Consent Decree with the Michigan Department of Environmental Quality (MDEQ) to investigate and remediate soil and groundwater contamination at the Kirsch Plant Site No. 1 contributing to the well field. In January 1997, Cooper Industries transferred the assets and liabilities of the Kirsch Division of Cooper Industries to a newly formed company, Kirsch Inc. Newell Rubbermaid purchased the stock of Kirsch Inc. from Cooper Industries and assumed responsibility for the remediation of the former Kirsch Plant No. 1 Site in or about May of 1997.<sup>9</sup> The Consent Decree also contemplated the use of leach tests to determine site-specific soil remediation objectives based on the migration to groundwater pathway.<sup>10</sup>

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<sup>1</sup> MDEQ, Fourth Five-Year Review Report for Sturgis Municipal Well Field Superfund Site, June 2015, p. 1.

<sup>2</sup> *Ibid.*

<sup>3</sup> *Ibid.*

<sup>4</sup> Snell Environmental Group, Task 2 – Remedial Design Soil Investigation Technical Memorandum, Sturgis Municipal Well Field Superfund Site, April 1995.

<sup>5</sup> *Ibid.*

<sup>6</sup> Geotrans, Performance Standard Verification Report, SVE System, Sturgis Municipal Well Field Superfund Site, December, 28, 2000, p. 3-1.

<sup>7</sup> EPA, Record of Decision for the Sturgis Municipal Wells, Sturgis, Michigan, September 30, 1991.

<sup>8</sup> EPA, Record of Decision Amendment, Sturgis Municipal Well Field, September 10, 1996.

<sup>9</sup> Complaint, Newell Rubbermaid v. Scott Bosgraaf et al, June 9, 2015.

<sup>10</sup> Consent Decree, MDEQ v. Cooper Industries, October 25, 1996, Scope of Work, p. 2.

Pre-design soil sampling was conducted on the eastern parcel in 1995. The highest concentration of TCE in soil detected during this investigation was 5.1 ppm.<sup>11</sup> An SVE system was installed on the eastern parcel and it operated from 1996 to 2000.<sup>12</sup> The SVE system was generally able to meet the remediation objectives in sandy soil in the upper 20–30 feet of soil, but many soil samples closer to the water table exceeded 100 ppb, possibly due to migration from contaminated shallow groundwater. The SVE operation was terminated in 2000 and additional pumping and treating of shallow groundwater was initiated shortly thereafter.<sup>13</sup>

In 2008, Kirsch Lofts LLC (owned by Scott Bosgraaf) entered into a contract to purchase the western parcel of the former Kirsch Plant Site No. 1 from the 1983 Finance Company, LLC. On behalf of Kirsch Lofts, Equity Resource Environmental (ERE) conducted a Phase I Environmental Site Assessment (ESA) (July 29, 2008) and a Phase II ESA (September 2, 2008). The Phase I ESA appropriately identified the following Recognized Environmental Conditions (RECs) for the western parcel:

- The subject property is listed as an NPL (Superfund) Site, and
- The use of “Triad (a TCE-based steel preservative)” is reported at the subject property and that related hazardous materials may have been released to soil and groundwater.

Further, the ERE Phase I ESA Report stated that:

- The subject property contains an active groundwater extraction well and treatment tower,
- Improper disposal of TCE/PCE was reported to have occurred at the subject property, and
- The property value of the subject property is diminished compared to similar properties in the vicinity.

The ERE Phase II ESA consisted of several shallow (less than 1.5 ft bgs) samples being collected and analyzed for a variety of compounds, including volatile organic compounds (VOCs). Of six soil samples analyzed for VOCs, three contained TCE at 1 milligram per kilogram (mg/kg) (ppm) or greater. The maximum TCE concentration observed was 14 mg/kg<sup>14</sup> (greater than the maximum observed on the eastern parcel of 5.1 mg/kg during remedial design) and significantly greater (1000x greater) than the TCE soil remediation objective in the 1996 ROD.

Kirsch Lofts reportedly shared this Phase II data with the MDEQ, and the MDEQ “strongly encouraged” Mr. Bosgraaf to get a second opinion and evaluation of the data.<sup>15</sup> Upon advice from the MDEQ, Scott Bosgraaf engaged a second consulting firm (one more experienced in Superfund matters), Rose & Westra to conduct a second, independent evaluation after the ERE investigations. The Rose & Westra Phase I ESA report appropriately identifies certain RECs<sup>16</sup> for the western parcel:

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<sup>11</sup> Snell Environmental Group, Task 2 – Remedial Design Soil Investigation Technical Memorandum, Sturgis Municipal Well Field Superfund Site, April 1995, p. 2-9.

<sup>12</sup> MDEQ, Fourth Five-Year Review Report for Sturgis Municipal Well Field Superfund Site, June 2015, p. 1.

<sup>13</sup> *Ibid.*

<sup>14</sup> ERE, Limited Phase II Environmental Site Assessment, 308 North Prospect St, Sturgis Michigan, September 2, 2008, Table 3.

<sup>15</sup> Scott Bosgraaf Deposition Transcript, April 13, 2016, p. 38.

<sup>16</sup> Rose & Westra, Phase I Environmental Site Assessment Report, 308 North Prospect Street and 415 East Main Street, July 10, 2009, pp. 1-2.

- Known status as part of a Superfund site, including known presence of groundwater contamination; and
- Known soil contamination on the Property.

An independent soil investigation by Rose & Westra (soil borings dated 11/6/2008) confirmed the presence of TCE in surface and subsurface soil significantly greater (i.e., 100x greater) than the soil remediation objectives in the 1996 ROD. MDEQ comments dated May 2009 on the Kirsch Lofts Brownfields Application include the following statement:

“DEQ is not comfortable providing funding for a project with such high levels of TCE identified adjacent to a structure to be used for commercial/residential properties.”<sup>17</sup>

Regardless, the sale of the parcel to Kirsch Lofts was completed on July 10, 2009. Kirsch Lofts completed and submitted its Baseline Environmental Assessment (BEA) for the Property on September 4, 2009, which included sufficient information to recognize that the soil contamination on-site exceeds Michigan Part 201 objectives for the pathway of Residential Drinking Water Protection. Predictably, the MDEQ project manager of the ongoing Superfund remediation project requested in January 2010 that Newell Rubbermaid conduct an investigation to define the extent and severity of the soil contamination identified on the western parcel and to conduct additional testing of soil on the eastern parcel as well. This investigation identified even higher concentrations of TCE in subsurface soil on the western parcel (up to 620 mg/kg or ppm) and concentrations in excess of the 100 ug/kg or ppb remediation objectives on the eastern parcel. The MDEQ formally directed Newell Rubbermaid, under the 1996 Consent Order, to complete additional CERCLA Response Actions to address the contaminated soil on both parcels in an April 14, 2011 letter. Over the next year, Newell Rubbermaid and the MDEQ negotiated a plan for the Additional Response Actions that included a work plan to conduct a leach study, among other things (including negotiating access with the property owner, a work plan for the leachate study, engineering design and bid specification documents, excavate soil and install vadose zone remediation system, operate vadose zone remediation system, conduct confirmation sampling and reporting of remediation).

Newell Rubbermaid's consultant, URS, submitted a Work Plan for Soil Leach Testing on October 26, 2012. URS and the MDEQ negotiated the particular statistical treatment of the data for technical accuracy and consistency with the Part 201 regulations, and URS submitted its Revised Work Plan for Soil Leaching on April 29, 2013. URS then collected the necessary field data and submitted to MDEQ its Leach Testing Report on January 24, 2014. MDEQ staff provided comments to URS on May 7, 2014, requesting revisions. In response, URS submitted a Revised Leach Testing Report on September 9, 2014. After review of the revised report, the MDEQ requested a review from its outside consultant, KERN Statistical Services which resulted in a letter communicating comments from Sigma Statistical Services (under contract to KERN) on April 4, 2015. Some of the KERN comments were in conflict with the original MDEQ comments and required URS to undo some of their prior revisions in addition to addressing the new comments. URS completed its re-analysis and submitted its Final Leach Testing Report to MDEQ on November 11, 2015. The MDEQ approval of this document is expected once the pending soil gas survey is complete.

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<sup>17</sup> KIRSCH-ESI 000007

### 3. OPINIONS

#### 3.1 Opinion 1

Kirsch Lofts had sufficient information prior to its purchase of the western parcel (July 10, 2009) to determine that the soil contamination detected on the property in investigations by consultants working on behalf of Kirsch Lofts posed an unacceptable risk to groundwater resources and would require significant and lengthy response actions under CERCLA, similar to those conducted (and still planned) for the eastern parcel.

Basis:

- The western parcel was identified in the ERE Phase I ESA Report as being part of an NPL site.
- Concentrations of TCE detected in soil in the ERE Phase II ESA were higher than the highest soil concentrations detected during the SVE pre-design investigation on the eastern parcel, which required the operation of an SVE system between 1996 and 2000 and still failed to achieve the 1996 ROD remediation objectives at each sample location.
- Such high concentrations of VOCs in the shallow soil (14 mg/kg less than one foot below grade) are unusual due to volatilization of TCE to ambient air.
- Such high concentrations of TCE in the shallow soil at a sandy site are highly suggestive of additional soil contamination at greater depth due to vertical migration.
- The subsequent Rose & Westra Phase II ESA conducted in November 2008 confirmed the presence of TCE in Site soils at concentrations greater than 100 times the 1996 ROD remediation objectives.
- The Kirsch Lofts BEA (September 4, 2009) clearly shows TCE soil contamination (which was detected in the 2008 due diligence investigations) well in excess of the Michigan Part 201 default remediation objectives for the pathway of migration to groundwater for residential drinking water.
- Superfund is inherently a slow and methodical process involving many iterations of document submittals and revisions to navigate the investigation, risk assessment, and remedial design steps, particularly when tailored, site-specific solutions are necessary, as is the case for the former Kirsch Plant No. 1 parcels.

#### 3.2 Opinion 2

Superfund is inherently a slow and methodical process involving many iterations of document submittals and revisions to navigate the investigation, risk assessment, and remedial design phases of a project, particularly when tailored, site-specific solutions are necessary to solve complex problems, as is the case for the former Kirsch Plant No. 1 parcels.

Basis:

The Superfund process from site discovery and evaluation to ultimate remediation and closure requires a large number of steps, and each step along the way requires EPA or state agency review and approval. The steps and corresponding reports involved include:

- Work plans for all phases (investigations, pilot studies);
- Data quality assurance project plan;
- Health and safety plans;
- Data reports;
- Annual reports;



- Remedial investigation report;
- Risk assessment reports;
- Scoping of remedial technologies;
- Feasibility study;
- Proposed plan;
- Record of decision;
- Remedial design (multiple reports at different % completions);
- Contractor bid specification documents;
- Progress reports;
- Remediation confirmation/action completion reports;
- Five-year review reports.

Some complex projects require more specialized analysis and reporting as well. This is a slow process. The GAO estimates that it takes an average of 10.6 years<sup>18</sup> to go from site discovery/listing to construction completion for non-federal Superfund sites. Construction completion is not the end of the project, but the beginning of the operating phase. Groundwater pump and treat systems are operated for years or decades and SVE systems typically operate for years as well.

### 3.3 Opinion 3

The Leachate Work Plan, data acquisition, and Leach Test Report were necessary steps in determining appropriate and achievable remediation objectives for the required Response Action.

Basis:

- Newell's prior experience with SVE on the eastern parcel during the period 1996 to 2000 demonstrated that the 1996 ROD soil remediation objectives were not practically achievable given the challenges at the site (60-foot vadose zone and continuing contribution of TCE from shallow contaminated groundwater).
- The western parcel has the same challenges for SVE treatment of vadose zone soil as the eastern parcel.
- The western parcel has even higher TCE concentrations than the eastern parcel (maximum of 620 mg/kg versus 5.1 mg/kg from the pre-design investigation for the eastern parcel).
- Immediate remedial action based on the 1996 ROD remediation objectives could have resulted in years of SVE design and operation, likely followed by remedy failure.
- A site-specific leachate study is allowed under Michigan Part 201 rules and was specifically suggested in both the 1991 ROD and the 1996 Consent Order.

### 3.4 Opinion 4

Kirsch Lofts should be able to resume their redevelopment project and occupy the finished buildings after the SVE and AS systems are installed and while the systems are being operated on the Site.

Basis:

The soil excavation and SVE/AS system installation will likely require exclusive access for a period of months, but the SVE/AS system can be designed to operate without significant disruption of planned activities on-Site, including the continued building renovations and occupation, and paving of the courtyard area. Certain above-ground features will be required, such as a blower building and a treatment building for off-gases, but these can be placed in inactive areas on-Site. The horizontal piping for the systems can be placed underground and can be paved over.

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<sup>18</sup> GAO, Superfund: Times to Complete Assessment and Cleanup of Hazardous Waste Sites, 1997.

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**EXHIBIT A**  
**PROFESSIONAL PROFILE FOR SCOTT HAYTER**

# SCOTT C. HAYTER

## Principal

Scott Hayter is a hydrogeologist and environmental engineer serving in the role of Principal at Ramboll Environ. He has 23 years of experience in environmental investigation and remediation with particular emphasis on contaminant fate and transport, site investigation and remediation, statistical analysis of environmental data, risk-based corrective action, and litigation support. He is an expert in the geologic and hydrogeologic evaluation of complex site settings to delineate potential sources of impact, characterize the extent and severity of that impact, develop remediation strategies, and manage remediation projects.

Mr. Hayter leads the Ramboll Environ operations in Michigan. He opened the Ann Arbor office in 2008 and his technical work has focused on Michigan sites for almost 10 years. Mr. Hayter is well versed in federal and Michigan environmental rules and regulations and has established working relationship with many regulators with in the Michigan Department of Environmental Quality.

## EDUCATION

1993

**BS, Earth Science (Hydrogeology)**

University of Waterloo

2004

**MS, Environmental Engineering**

Marquette University

## COURSES/CERTIFICATIONS

Professional Geologist - Illinois, 2015

Professional Geologist - Indiana, 2015

Professional Engineer - Ohio, 2015

OSHA 40-hour HAZWOPER Certified

Confined Space Training Certified

ASTM Risk-based Corrective Action Certification

Environmental Law Institute – Boot Camp on Environmental Law

ZweigWhite: Advanced Project Management

Mitchell Leadership Consulting: Global Leadership Development Program



## CONTACT INFORMATION

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## EXPERIENCE SUMMARY

- Managed over 50 due diligence site assessments, including Phase I Environmental Site Assessments and Phase II follow-on assessments.
- Prepared numerous Baseline Environmental Assessments (BEAs) and Due Care Plans (DCPs) for industrial and commercial facilities located throughout Michigan.
- Served as technical lead for more than a dozen projects involving the evaluation of contaminated soil and groundwater relative to Michigan's Part 201 groundwater/surface water interface criteria.
- Served as technical manager or technical leader for a half dozen Superfund sites and provided technical support for more than a dozen superfund sites during the past 20 years.
- Provided litigation support for more than 10 years with a focus on determining the timing and source of environmental impacts as well as the methods and procedures needed to properly investigate and remediate these impacts.

## PROJECTS

### Litigation Support

Provided consulting services and expert witness assistance for legal counsel related to cost allocation for petroleum releases for a contractual dispute involving more than 100 gasoline service stations. Settlement was reached between the two petroleum companies through detailed analysis and litigation of 10 test sites. Project efforts included estimating timing of releases, differentiation of sources for comingled plumes, evaluating the appropriateness of response actions, and estimating long-term remediation and monitoring costs.

### Expert Witness

Expert witness for a dispute involving the illegal construction of a causeway in an eastern Ontario lake. Used multiple lines of evidence to show that the causeway had negatively impacted the water quality at a surface water supply intake. Developed a conceptual site model to demonstrate that the causeway was creating conditions that promoted the growth of algal blooms over the water supply intake and increased the risk of toxin poisoning from cyanobacteria.

### Superfund Project Management

Served as project manager for Region V Superfund Site in Ohio. The site is situated on a 71-acre parcel of land in southern Ohio. The facility has specialized in the production of ordnance and shot shell ammunition, since 1887. The site soils and sediment are impacted with metals and the site groundwater and sediment in an adjacent river are being investigated for impacts. Responsibilities included completing the remedial investigation, including implementing supplemental site investigation activities, managing human health and ecological risk assessment activities, and negotiating site specific cleanup criteria with the United States Environmental Protection Agency (USEPA) and Ohio Environmental Protection Agency (Ohio EPA). Conducted a leachability and metals mobility analysis to show that metals have not and will not impact the underlying aquifer. This analysis was conducted in place of groundwater sampling where monitoring well installation was inhibited by terrain and geological conditions. Mobility analysis was used to show that current soil contamination will not result in a future impact to the underlying aquifer, whereas groundwater samples only indicate the current condition of the aquifer.

### Litigation Support

Supported allocation expert to determine release timing and fate and transport pathway of a +100,000 gallon release of fuel oil from an industrial facility located adjacent to the Mississippi River. Release occurred during a multiyear period from an above ground storage tank. Our evaluation determined that the fuel oil pooled in the subsurface beneath the facility and was released to the river years later during



a significant flood event. Environmental impact to the river extended for more than 10 miles from the facility.

#### **Superfund Project Management**

Served as project manager and principal-in-charge for operable units (OU) 3, 4, and 5 for a state Superfund site located in DePue, Illinois. The 860-acre site was formerly used in the production of slab zinc, zinc dust, sulfuric acid, lithopone, and fertilizer. Contaminated media includes on-site soil, waste material, and groundwater (OU3), off-site residential soil and site related material (OU4), and soil, sediment, and surface water located in and around Lake DePue (OU5). Responsibilities included conducting a subsurface investigation for the Corrective Action Management Unit (CAMU), managing the completion of the OU3 Remedial Investigation, reassessing the conceptual site model for the former plant site (OU3), managing the human health and ecological risk screening for the former plant site, conducting testing and data evaluations for the lake to support the on-going risk assessment, and providing management and technical support for the residential pilot and design studies (OU4).

#### **Soil and Groundwater Remediation**

Mapped subsurface geology and used geographic information system (GIS) software (ARCMAP) and 3-D geostatistical interpolation software (Environmental Visualization System) to determine likely migration pathways for a one-million-gallon nonaqueous phase liquid (LNAPL) plume beneath a rail yard and neighboring town in North Dakota. Migration pathway analysis was used to confirm the nature and extent of the plume for the remedial design as well as the risk based analysis prepared for pending litigation.

#### **Litigation Support**

Retained as an expert witness and provided technical support for litigation involving the migration of an off-site chlorinated solvent plume on to a client's facility. Ohio based client spent significant funds to investigate the source of the groundwater impacts on their property, and they were concerned with vapor intrusion risks to their facility staff. Technical support focused on the fate and transport of the contaminants from the off-site source to on-site worker exposure areas.

#### **Expert Witness**

Prepared affidavit at request of client counsel to document opinion regarding soil cleanup decision rules. Affidavit was submitted to the State of Illinois as part of a dispute resolution between the state and a PRP group for the cleanup of residential properties impacted by a former zinc smelter.

#### **Soil, Soil Vapor and Groundwater Remediation**

Served as project geologist for Superfund site located in western Tennessee. The site consists of a 27-acre capped industrial waste landfill and 1,300 acres of downgradient groundwater impacted with carbon tetrachloride. A nine-well, 420-gallon per minute, multi-aquifer extraction and treatment system was constructed and brought on line in 1996. Remedy was deemed ineffective and taken off line in 2003. Responsibilities included reassessing the site's hydrogeologic conceptual model; reassessing the site's existing remedy, performing 5-Year review investigation on behalf of USEPA; and assessing additional remedial options. Participated in soil gas investigation in residential area located adjacent to landfill and overlying contaminated groundwater plume.

#### **Litigation Support**

Prepared a three dimensional visualization model as a trial exhibit to show jury the likely subsurface pathway of a contaminated groundwater plume. The model was based on actual geological and analytical data and the model showed the contaminant pathway from a solvent tank at an industrial facility to a residential drinking water well.

### **Superfund Site Assessment and Remediation**

Provided strategic consulting to support for negotiations with USEPA and MDEQ regarding the management of the Michigan Tittabawassee River Site under the USEPA's Superfund Alternative Site (SAS) program. Historic operations at the facility resulted in the release of dioxins and furans to the Tittabawassee River. The impacted sediments have been detected more than 50 miles from the plant site in the Tittabawassee and Saginaw rivers and Saginaw Bay. More than 8,000 acres of upland soil, on public and private land, have also been impacted. Other chlorinated compounds were also historically released from the Midland facility and have settled as deposits of pure phase liquids within the Tittabawassee River sediments, adjacent to the plant site. Participated in the technical team to prepare feasibility studies for the first 10 miles of river to be remediated. Managed the remedial design for the pure phase chlorinated compounds in the sediments adjacent to the plant site and participated in the implementation of the remedial design. Contributed to the ecological assessment, design, and implementation of the upland remedial activities, including residential properties. Managed multi-company sub-teams to prepare design documents and presented technical investigation and design materials to the Agencies on a monthly basis for five years.

### **Groundwater and Soil Vapor Investigation\Remediation**

Prepared due care plans for two manufacturing facilities located in northern Michigan. Reviewed existing site data, evaluated exposure pathways, and recommended due care obligations to meet the Michigan Department of Environmental Quality (MDEQ) Part 201 regulations. Performed a vapor intrusion assessment at both sites and completed a vapor intrusion assessment at one site, which included the collection of soil, groundwater, sub-slab soil gas and indoor air quality samples. Prepared a remedial action plan at one of the facilities to address groundwater impacted with chlorinated organics using bioremediation.

### **Litigation Support**

Provided litigation support and strategic advice related to cost allocation for petroleum releases that occurred at a dozen gasoline service stations located in Illinois, Indiana and Wisconsin. Technical support included forensics analysis of existing sample data to estimate timing of releases. Forensics analysis techniques focused on gasoline additives as well as weathering effects on the composition of the major gasoline constituents.

### **Soil and Groundwater Remediation**

Worked with the Ohio EPA to develop a work plan related to a use attainability study of an adjacent river. Conducted a leachability and metals mobility analysis to show that metals have not and will not impact the underlying aquifer. This analysis was conducted in place of groundwater sampling where monitoring well installation was inhibited by terrain and geological conditions. Mobility analysis was used to show that current soil contamination will not result in a future impact to the underlying aquifer, whereas groundwater samples only indicate the current condition of the aquifer.

### **Litigation Support**

Provided litigation support for an insurance cost recovery case involving the release of contaminated water from a leaking storm water collection systems. A large chemical manufacturing facility located in Michigan relied on a storm water collection system to capture contaminated surface water runoff in process areas and transfer it to a wastewater treatment system before discharging the storm water to the adjacent river. The leaking storm water collection system resulted in impacts to the shallow on-site groundwater. Litigation support activities included conceptual engineering designs and cost estimates to fix the compromised storm water collection system.

**Litigation Support**

Provided deposition testimony related to a payment dispute at Superfund Site located in central Indiana. Contractor was responsible for the construction and operation of an in situ soil vapor extraction system at a former solvent recycler. PRP group alleged that the contractor failed to meet cleanup based performance standards. Testimony focused on support of PRP group in the assessment of the remedy and oversight of the contractor during remedy implementation. Successfully designed and operated a unique sampling tool for the PRP group to confirm that groundwater located under the landfill liner had not been remediated to the contract required concentration levels.

**Superfund Project Management**

Served as project manager for Region V Superfund Site in Indiana. The site is located in central Indiana and was formerly used as a solvent recycling facility. Initial remedy included soil excavation and consolidation, soil vapor extraction, installation of an impermeable cap, and groundwater hot spot treatment using chemical oxidation. Responsibilities included compliance monitoring for initial remedy, remedial design to augment initial remedy, and agency negotiations related to remedy augmentation. Proposed augmented remedy included *in situ* and *ex situ* soil vapor extraction, subsurface containment barrier, groundwater pump and treat (dewatering) system, air stripper, liquid and air activated carbon units and a permeability reactive gate system. Managed installation of subsurface containment barrier using vibrated beam method.

**Litigation Support**

Retained to provide expert opinion related to cost allocation and cleanup responsibility for soil and groundwater impacts at a chromium plating facility. Chromium plating operations were historically conducted by client at a leased facility. Owner of facility was liable for environmental impacts from industrial operations that pre-dated the lease that spanned multiple decades. Technical support focused on the timing of releases and the differentiation of plumes from the various sources.

**Litigation Support**

Provided technical litigation support (including NCP/CERCLA cost recovery and necessity claims) for a matter involving soil and groundwater contamination. Contamination was associated with a former manufacturing facility that was demolished and the property was incorporated into the expansion of a Midwest airport. Necessity of claims were based on the reduced environmental and human health risks from the contamination that was encapsulated under an airport runway.

**Feasibility Study and Remedial Design for Sediment Remediation**

Provided technical input into the Lower Rouge River Old Channel (LRROC) remedial investigation and participated in the preparation of the feasibility study and remedial design. The LRROC is located in Detroit, Michigan, in a highly industrialized area along the northern and western boundaries of Zug Island. The Remedial Investigation identified polycyclic aromatic hydrocarbon (PAH) as the primary contaminant of concern. The nature and extent of the sediment impacts, the preliminary remedial goals (PRGs), and the remedy alternatives were developed as part of, and presented in, the Feasibility Study.

**Soil and Groundwater Remediation**

Delineated hydrogen sulfide gas beneath a former steel mill in Chicago, Illinois. This lakefront property was to be developed for residential, commercial, and industrial use. Field investigation consisted of a soil gas survey, which was conducted with a Geoprobe rig, on-site analytical instruments, and off-site analytical laboratories. Utilized 3-D geostatistical interpolation techniques to visualize and map hydrogen sulfide concentrations in the vadose zone. Identified hydrogen sulfide gas generation as a process consisting of sulfur reducing bacteria in subsurface sulfide waste rock saturated with oil contamination.



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### **Cost Allocation**

Provided detailed remedial cost estimates for PCB impacted soil and building material at an iron foundry located near Chicago, Illinois. Cost estimates were prepared to support cost allocation negotiations between current and former facility owners. Participated in allocation discussions to support cost allocation assertions.

### **Groundwater Remediation**

Participated in the operation and maintenance of active remediation systems for two adjacent Region V Superfund sites. Both sites are located in northern Indiana and both sites were formerly used for the storage and illegal disposal of liquid chemical wastes. Remedies for both sites consisted of groundwater extraction and treatment using hydrogen peroxide ultraviolet light units and disposal of effluent down a deep well. Designed and implemented aquifer testing and managed capture zone modeling to confirm hydraulic capture for both sites. Utilized fate and transport model to evaluate the effect of a proposed subsurface source containment wall on the performance of the groundwater extraction system. Aided in the design and installation of a soil vapor extraction system, which utilized air sparging wells.

### **Soil and Groundwater Remediation**

Managed forensics fingerprint analysis of contaminated sediments located within the Detroit River. Heavy industrial activity along the Detroit River since the early 1900s has impacted the river sediments with petroleum hydrocarbons and tars. Fingerprint evaluation differentiated coal tar based impacts tied to client facility from petroleum and coal based impacts that originated from other upstream sources.

### **RECENT PUBLIC PRESENTATIONS**

- Buying and Selling Distressed Properties – All Appropriate Inquiry, Michigan Chamber of Commerce
- Ongoing Development of an Environmental Development Project, Western Environmental Dredge Association
- Shale Gas Development – Real and Perceived Issues, Michigan Environmental Women's Tea
- Results of Reach MM Island Reconstruction, Tittabawassee River Community Action Group
- Remedial Option for the St. Clair River Sediments, Sarnia Ontario Public Meeting



EXPERT REPORT OF SCOTT HAYTER  
STURGIS MUNICIPAL WELL FIELD SITE  
STURGIS, MICHIGAN

**EXHIBIT B**  
**LIST OF PUBLICATIONS AND PRESENTATIONS FOR SCOTT HAYTER**

EXHIBIT B  
LIST OF PUBLICATIONS AND PRESENTATIONS

**Papers and Posters:**

"The ongoing development of an environmental dredging project in the St. Clair River, based upon a risk-based evaluation process", Sarnia, Ontario, Canada. Authors: S. Hayter, R. Joyner, R. Santiago, and M. Henning. *Proceedings of WEDA XXXIV Technical Conference & TAMU 45 Dredging Seminar. June 2014.*

"Evaluation of Sediment Remediation Options for Priority Areas in the St. Clair River that Pose a Risk to Fish Due to Bioaccumulation of Methylmercury". Authors: S. Hayter, M. Henning, L. Brown. International Conference on Mercury as a Global Pollutant. Edinburgh July 2013.

**Presentations:**

"Buying and Selling Distressed Properties – All Appropriate Inquiry, Michigan Chamber of Commerce". Michigan Chamber of Commerce. May 2011

"Ongoing Development of an Environmental Development Project, Western Environmental Dredge Association". Western Environmental Dredge Association. Toronto *June 2014*

"Shale Gas Development – Real and Perceived Issues", Michigan Environmental Women's Tea. July 2010.

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**EXHIBIT C**  
**DOCUMENT LIST**

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MDEQ, Fourth Five-Year Review Report for Sturgis Municipal Well Field Superfund Site, June 2015

MDEQ, Consent Decree between MDEQ and Cooper Industries, October 25, 1996

MDEQ, Comments on Kirsch Lofts Brownfields Application, May 2009, KIRSCH-ESI 000007

MDEQ, Email from Robert Franks to Scott Bosgraaf, Subject: Kirsch Lofts – Vapor Mitigation and Soil Sampling Results, January 27, 2010

MDEQ, Email from Robert Franks to Kristin Jones of Newell Rubbermaid, re: MDEQ Comments on Sturgis Wellfield Leach Test Report, May 7, 2014.

MDEQ, Certified Letter from Robert Franks to Louis Meschede of Newell Rubbermaid, Subject: Notice of Additional Response Activities, Sturgis, St. Joseph County, Michigan, April 14, 2011

MDEQ, Letter from Carrie Geyer to Kristin Jones, Subject: Revised Plan for Soil Leach Testing in the Former Kirsch Plant No. 1 Source Area, dated April 29, 2013 – Sturgis Municipal Well Field Superfund Site, May 8, 2013.

Snell Environmental Group, Task 2 – Remedial Design Soil Investigation Technical Memorandum, Sturgis Municipal Well Field Superfund Site, April 1995

Geotrans, Performance Standard Verification Report, SVE System, Sturgis Municipal Well Field Superfund Site, December 28, 2000.

EPA, Record of Decision for the Sturgis Municipal Wells, Sturgis Michigan, September 30, 1991

EPA, Record of Decision Amendment, Sturgis Municipal Well Field, September 10, 1996

Newell Rubbermaid v. Scott Bosgraaf et al, Complaint, June 9, 2015

Newell Rubbermaid v. Scott Bosgraaf et al, Deposition Transcript of Scott Bosgraaf, April 16, 2016.

ERE, Phase I Environmental Site Assessment, 308 North Prospect Street, City of Sturgis, St. Joseph County, Michigan, July 29, 2008

ERE, Limited Phase II Environmental Site Assessment, 308 North Prospect Street, Sturgis, Michigan, September 2, 2008.

Rose & Westra, Phase I Environmental Site Assessment Report, 308 North Prospect Street and 415 East Main Street, July 10, 2009

Rose & Westra, Soil Boring Logs, November 6, 2008, KIRSCHLOFTS000246-255

Rose & Westra, Baseline Environmental Assessment for 308 North Prospect Street, Sturgis, Michigan, September 4, 2009

Sigma Consulting, Letter from to Robert Franks from Sarah Hession, re: Revised Leach Testing Report, Former Kirsch Plant No. 1 Source Area, Sturgis Municipal Well Field Superfund Site, Sturgis, Michigan, April 14, 2015

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DOCUMENT LIST

URS, Letter from David Meiri, PhD, to Carrie Geyer of MDEQ, re: Revised Plan for Additional Response Activities at Sturgis Municipal Well Field Superfund Site, Sturgis, Michigan, August 22, 2012

URS, Letter from David Meiri, PhD, to Carrie Geyer of MDEQ, re: Work Plan for Soil Leach Testing in the Former Kirsch Plant No. 1 Source Area, Sturgis Municipal Well Field Superfund Site, Sturgis, Michigan, October 26, 2012.

URS, Revised Leach Testing Report, Former Kirsch Plant No. 1 Site, Sturgis Michigan, September 9, 2014.

URS, Final Leach Testing Report, Kirsch Plant No. 1 Site, Sturgis Michigan, November 9, 2015